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(21) International Application Number: PCT/SE92/00543 (22) International Filing Date: 7 August 1992 (07.08.92) (71) Applicant (for all designated States except US): LJUNG & LUNDIN [SE/SE]; Datakonsult AB, Box 7268, S-402 35 Göteborg (SE). (72) Inventor; and (75) Inventor/Applicant (for US only) : LUNDIN, Per [SE/SE]; Brandmansgatan 8, S-421 68 Västra Frölunda (SE). (74) Agents: ROTH, Michel et al.; Göteborgs Patentbyrå AB, Box 5005, S-402 21 Göteborg (SE). (81) Designated States: AU, BB, BG, BR, CA, CS, FI, HU, JP, KP, KR, LK, MG, MN, MW, NO, PL, RO, RU, SD, UA, US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE).		Published <i>With international search report. In English translation (filed in Swedish).</i>
(54) Title: A SYSTEM FOR DRAWING WINNERS IN A LOTTERY (57) Abstract System for use of a microprocessor for drawing of winners in a lottery with an in advance given dividend, at which each lottery ticket includes at least one counter of bingo type with a number in rows and columns provided numbers as well as for the lottery ticket unique identification. The identification of each lottery ticket and number row of a counter are stored in a first register which is readable by a microprocessor, that a number of number sequences are created and stored in a second register which is readable by a microprocessor, in such a way that each of the number sequences is unique and gives a number of prize-winning rows of numbers among the counters, which number corresponds to the given dividend. One of the number sequences in the second register is selected by a random draw. The microprocessor compares this chosen number sequence with the number rows in the first register and shows the identifications that indicate counters with a prize-winning row of numbers.		

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A System for Drawing Winners in a Lottery.

TECHNICAL FIELD

5 The present invention refers to a system for use of a micro-processor at drawing of winners in a lottery with an in advance given dividend, whereby each lottery ticket includes at least one counter of bingo type with a number of numbers provided in rows and columns as well as an identification that is unique for the lottery ticket.

PRIOR ART

10 At conventional lotteries one simply draws prize tickets from the total number of lottery tickets, until an in advance given number of prize tickets has been obtained. The results of such draws are published by means of lottery prize-list. A disadvantage of usual lotteries is that the excitement
15 moment is short-lived.

Interactive games of bingo type engages the participants considerably more and are therefore experienced as more exciting. A problem at games of bingo type is that the random draw of numbers gives an unpredictable dividend. It is true,
20 that the dividend in long-term can be statistically calculated, but the uncertainty is yet very big before each individual draw.

THE TECHNICAL PROBLEM

25 The purpose of the invention is therefore to achieve a system that makes it possible to achieve an in advance given dividend at games of bingo type.

THE SOLUTION

For this object the invention is characterized in that the identification of each lottery ticket and number row of a counter are stored in a first register which is readable by a microprocessor, that a number of number sequences are created and stored in a second register which is readable by a microprocessor, in such a way that each of the number sequences is unique and gives a number of prize-winning rows of numbers among the counters, which number corresponds to the given dividend, that one of the number sequences in the second register is selected by a random draw, and that the microprocessor compares this chosen number sequence with the number rows in the first register and shows the identifications that indicate counters with a prize-winning row of numbers.

Advantageous variants of the invention are illustrated by the subsequent subclaims.

PREFERRED EMBODIMENTS

The system according to the invention is based on the use of the conventional bingo-counter for variation games. Normally such a counter includes 75 numbers distributed in five columns with 15 rows each, with numbers 1-15 in the first column, 16-30 in the second column, 31-45 in the third column, 46-60 in the fourth column, and 61-75 in the fifth column. The invention is however not limited to this size, but can be modified regarding the number of rows and columns.

There are a total of 50.625 different ways to combine a bingo counter with 75 numbers in five columns. Each lottery ticket includes at least one of these counters. It can manageably be appropriate to use series of for example 10.000 lottery

5 tickets per series. Then 10.000 of the total number of bingo counters are selected. The counters are each printed and provided with an identification number, so that every lottery ticket in each series has a unique counter and a unique identification number. If several series are present, for example nine, there are therefore 90.000 lottery tickets with nine identical counter series and 90.000 different lottery ticket numbers.

10 Each lottery ticket number in a series consequently represents a unique counter. The lottery ticket numbers and their respective counters are stored in a first register readable by a microprocessor.

15 Before each draw the prize plan shall be known. One can for example choose that there shall be 90 winners per 10.000 lottery tickets. The draw is carried out after finished sale and before the presentation of the draw result. This presentation may for example be carried out on TV, in such a way that it seems as if the draw, being of bingo character, is done in the moment of broadcasting. The presentation can further-
20 thermore be published in the daily press after the broadcasting.

25 In a second register readable by a microprocessor, a number of number sequences are stored, which include 17-20 different numbers between 1 and 75. These number sequences are unique and constructed such, that they give an exact number of winners at the use of 10.000 counters. To satisfy the demand of randomness the number of number sequences for example may include 2.000.

The draw is carried out by randomly selecting a number sequ-

ence among the mentioned 2.000 in the second register. Thus it is entirely random sample that determines which 90 counters per series that is a winning one.

5 After this draw a computer run takes place in which the selected number sequence is compared to the counters in the first register. In this way prize lottery ticket numbers are successively put together until all prize tickets in all series have been obtained.

10 It is now possible to carry out the presentation of the selected number series, for example in live TV, in such a way that the spectators may get the impression that the draw, of bingo game character, occurs in the moment of broadcasting.

15 The creation of number sequences is carried out by means of random number generator in the computer. At first five lists of random numbers (one per column) are generated with random mutual order of the numbers 1-15 in the first list, 16-30 in the second list, 31-45 in the third list, 46-60 in the fourth list and 61-75 in the fifth list. Subsequently a
20 random number between one and five is generated. This number determines in which list of random numbers (column) that the last number shall be drawn. Then a suitable number of numbers in each of five lists of random numbers are drawn by means of a new random number between 1-15 for each draw.
25 This random number points onto a position in the actual list of random numbers. This position contains the number that shall be used in the number sequence. In this way the function of random numbers of the computer is used twice to obtain a drawn number. Furthermore it is provided that the
30 order among the numbers generated is mixed, so that not all

numbers from the same column appear consecutively . The distribution of numbers from the different columns is done in an appropriate way in relation to the number of winners, for example a draw of three numbers in column 1, two numbers in column 2, five numbers in column 3, one number in column 4 and three numbers in column 5 give a total of 90 winners.

In this way each number sequence is generated. The computer is now used for going through and ascertain on which number counters there is a horizontal line with five drawn numbers. If the number of prize counters corresponds to the given dividend this number sequence is accepted, in other case it is rejected. In this way accepted number sequences are generated until the numbers form a statistical distribution number in relation to the number of lottery tickets in each series.

After a finished lottery round the selected number sequence is erased from the other register. A new draw sequence is instead created in the above described way, so that before each lottery round there is always available the amount of sequences determined in advance to choose among.

The system according to the invention is very flexible and can easily be adapted to various average distributions of dividend.

The invention is not limited to the above described embodiments, but several variants are conceivable within the scope of subsequent claims. For example counters with more or fewer numbers than described above can be used.

CLAIMS

1. System for use of a microprocessor for drawing of winners in a lottery with an in advance given dividend, at which each lottery ticket includes at least one counter of bingo type with a number in rows and columns provided numbers as well as a for the lottery ticket unique identification, characterized therein, that the identification of each lottery ticket and number row of a counter are stored in a first register which is readable by a microprocessor, that a number of number sequences are created and stored in a second register which is readable by a microprocessor, in such a way that each of the number sequences is unique and gives a number of prize-winning rows of numbers among the counters, which number corresponds to the given dividend, that one of the number sequences in the second register is selected by a random draw, and that the microprocessor compares this chosen number sequence with the number rows in the first register and shows the identifications that indicate counters with a prize-winning row of numbers.
2. System according to the claim 1, characterized therein, that the numbers in the randomly selected number sequence are shown one by one in a bingo-manner.
3. System according to the claim 1 or 2, characterized therein, that the first register contains all possible number series.

4. System according to the claim 1 or 2,
c h a r a c t e r i z e d t h e r e i n,
that the first register contains a selected number of number
series.

5 5. System according to any of the claims 1 to 4,
c h a r a c t e r i z e d t h e r e i n,
that the second register occupies at least so many number
sequences, that the number sequences form a statistical
10 distribution amount in relation to the number of number
series.

6. System according to any of preceeding claims,
c h a r a c t e r i z e d t h e r e i n,
that each number sequence is created with consideration to
the number of number rows, to the number of winners in the
15 prize plan and to how long the number sequence must be to
indicate prize rows.

7. System according to claim 6, whereby the counter includes
number 1-75, arranged in five columns,
c h a r a c t e r i z e d t h e r e i n,
20 that each number sequence is created by means of the internal
random number generator of a computer, whereby a number of
lists of random numbers are generated that correspond to the
number columns, with random mutual order of the numbers 1-15
in the first list, 16-30 in the second list, 31-45 in the
25 third the list, 46-60 in the fourth list and 61-75 in the
fifth list, that a random number between one and five is
generated, which number determines in which list of random
numbers the last number shall be drawn, that one to five
numbers are drawn in each of the lists of random numbers by

means of a new random number between 1-15 for each draw, which random number points onto a position in the actual list of random numbers, so that this position contains the number that shall be used in the number sequence.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 92/00543

A. CLASSIFICATION OF SUBJECT MATTER

IPC5: G07C 15/00, A63F 3/06, G06F 15/44

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC5: A63F, G06F, G07C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GB, A, 2197971 (A.W. ROBINSON), 2 June 1988 (02.06.88), abstract	1-7
Y	US, A, 4909516 (A.P. KOLINSKY), 20 March 1990 (20.03.90), column 2, line 7 - line 36	1-7
A	US, A, 4312511 (G.A. JULLIEN), 26 January 1982 (26.01.82), abstract	1-7

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US, A, 4378940 (J. GLUZ), 5 April 1983 (05.04.83), abstract	1-7

A	US, A, 4669729 (S.G. SOLITT ET AL), 2 June 1987 (02.06.87), abstract	1-7

A	US, A, 5096202 (E. HESLAND), 17 March 1992 (17.03.92), abstract	1-7

A	EP, A, 0310368 (INTERVISION (PROPRIETARY) LIMITED), 5 April 1989 (05.04.89), claim 1	1-7

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INTERNATIONAL SEARCH REPORT
Information on patent family members

26/02/93

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US-A-	4909516	20/03/90	NONE		
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			CA-A-	1141032	08/02/83
US-A-	4378940	05/04/83	NONE		
US-A-	4669729	02/06/87	NONE		
US-A-	5096202	17/03/92	AU-A-	3037489	25/08/89
			CA-A-	1294364	14/01/92
			EP-A-	0398948	28/11/90
EP-A-	0310368	05/04/89	NONE		

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